Clinical Practice Guideline: **Thoracic Rib Belt**

Date of Implementation: **December 18, 2015**

Product: **Specialty**

GUIDELINES

American Specialty Health – Specialty (ASH) considers thoracic rib belts not medically necessary because the literature has not reported treatment safety and effectiveness for rib fractures or other related indications. There is insufficient evidence in the published, peer-reviewed scientific literature to demonstrate that thoracic rib belts are a safe and effective treatment as they may increase the incidence of respiratory complications.

HCPCS Codes and Descriptions

HCPCS Code	HCPCS Code Description
L0220	Thoracic, rib belt, custom fabricated

DESCRIPTION/BACKGROUND

Thoracic rib belts have been previously suggested as an additional treatment in simple rib fracture, along with analgesics and breathing exercise to avoid secondary or delayed pulmonary complications. However, this practice is out of favor because of the potential for an increase in complications due to reduced chest expansion and ventilation from belt application. Restriction of ribs and chest movements when breathing and coughing may lead to pneumonia.

EVIDENCE REVIEW

There is very little published evidence on use of thoracic rib belts and thorax injuries, such as rib fractures. The existing studies are small pilot studies that were published between 1989 and 1990. The outcomes of these studies are insufficient for drawing conclusions about the efficacy and safety of thoracic rib belts for any indication and present a case for discouragement of use of these belts due to increased respiratory complications, such as pneumonia. Lazcano et al. (1989) investigated the use of rib belts in acute rib fracture. Authors designed and conducted a controlled, prospective, randomized pilot study to determine if there was any increased morbidity associated with the use of rib belts in the treatment of patients with acute rib fractures. Twenty-five adult patients with proven acute rib fractures were randomized into two groups: treatment with analgesics and a standard circumferential rib belt and treatment with analgesics alone. Patients were contacted by telephone three days after the initial injury and then reexamined 14 days post-injury. Rates of pain reduction, compliance, and delayed complications were assessed. Rib belts were not found to significantly reduce the severity

of pain. Four complications (one case of bloody pleural effusion requiring hospitalization, two cases of asymptomatic discoid atelectasis, and one case of allergic contact dermatitis) were identified, all occurring in the group of patients receiving rib belts. This pilot study indicates that while rib belts were widely accepted by patients for control of pain at the time of this study, they are associated with an increased incidence of complications.

Quick (1990) completed a pilot study in which 20 patients with simple rib fractures were randomized prospectively into two treatment groups. One group received ibuprofen and the other group ibuprofen plus a rib belt for analgesia. There were no statistically significant differences observed in pulmonary function testing between the groups at initial visit, 48 hours, or 5 days. Atelectasis developed in four patients, two in each treatment group; there were no cases of pneumonitis. Patients with displaced rib fractures experienced a higher rate of hemo- or pneumothorax than did those with non-displaced fractures (5/10 v 1/10). Patients with displaced fractures who used rib belts experienced a higher rate of hemothorax than those using oral analgesia alone (4/6 v 1/4). Patients using rib belts uniformly reported a significant amount of additional pain relief. Authors suggest that the clinician can use a standard rib belt to provide additional comfort to the patient with fractured ribs without apparent additional compromise to respiratory parameters. However, this conclusion is not warranted based on the small sample size and complications experienced that were serious in nature.

References

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